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10/604,711	08/12/2003	James Allen Charnley JR.	P00899-US1	1710

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VIZVARY, GERALD C

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/604,711	CHARNLEY, JAMES ALLEN	
	Examiner	Art Unit	
	Gerald C. Vizvary	3609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *1-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/23/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 10/23/2003 was considered by the examiner.

Claim Objections

2. Claim 12 objected to because of the following informalities: "investment alternatives combined as- five market" leaving out the word "sectors". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Rebane US 6,078,904.

As for claim 1, Rebane US 6,078,904 shows a method of generating a market-sector level index of investment portfolio performance, comprising the steps of:

acquiring data for a population of investments ("In accordance with the present invention, the foregoing analysis and computations are embodied in a software product

for controlling and configuring a computer to receive data descriptive of various investments and their risk characteristics, to interactively determine an investor's risk tolerance function, to allocate investment assets to an investment portfolio, to compute the probability density function of the portfolio's performance with respect to the investor's assets, and to compute and maximize the expected value of the probability density function of the investor's probability preferences." Rebane US 6,078,904 col. 8, lines 6-16)

generating a contiguous series of the measurement of periodic investment return for the population of investments whose operations mirror that of an investment manager holding a diversified investment portfolio ("Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred. The process of creating the investor's RTF is further described below in sctn.5.4." Rebane US 6,078,904 col. 2, lines 31-39) ;

dividing the population of investments into market-sector groups whose pattern and level of past periodic returns has been uniquely different as stipulated under the tenets of Modern Portfolio Theory ("The total rate of return variance of such a portfolio is then given by $\sigma_s^2(\underline{f}) = \underline{f}^T \text{cov } S\underline{f}$ which shows the dependence of the portfolio's return variance on the allocation vector .function.. In modern portfolio theory [4] it is $\sigma(f)$ from (3) that

gives the uniform measure of portfolio risk for all investors, and thus constrains CAPM to treat all investors equally. Rebane US 6,078,904 col. 12, lines 31-39);

calculating an average of the population period-returns for each returns period and each market-sector group ("The asset allocation program 201 is `stateful system` in that its internal data representation consists of a formal list of data structures and related status parameters having current values." Rebane US 6,078,904 col. 11, lines 45-48);

creating index-comparison statistics for each market sector ("The asset allocation program 201 performs certain functions and processes automatically and in response to user input depending on the current state of the system." Rebane US 6,078,904 col. 11, lines 48-51) and

generating population-comparison statistics for each market sector from periodic returns data of the market- sector group ("Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules." Rebane US 6,078,904 col. 12, lines 31-39).

As for claim 2, Rebane US 6,078,904 shows a method of claim 1, wherein the index-comparison statistics are calculated using the formula of: [(ending value-preceding period)*(l+(average periodic return- current period/100))]= [ending value-current period]

and the start date and beginning value is set to coincide with earliest available initial date and the initial-date index value for an associated primary-market index ("Input/edit current actual portfolio. Here the investor identifies the investments to be included in the optimization, preferably by security label, and including purchase price, purchase date, current price. The price information may be accessed and provided by the account management module 310 Current market prediction data, including the Investment Horizon, Market Appreciation, and Standard Deviation data. Again, this data need not be manually input by the investor, but may be extracted from existing online sources via the account management module 310" Rebane US 6,078,904 col. 13, lines 4-13).

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As for claim 3, Rebane US 6,078,904 shows a method of claim 1, wherein the index-comparison statistics are calculated using the formula of: [(ending value-preceding period)*(l+(average periodic return-current period/100))= [ending value-current period] and the start date and ending dates for the compared indices are set to common values and the initial index value is set to 100 ("Input/edit current actual portfolio. Here the investor identifies the investments to be included in the optimization, preferably by security label, and including purchase price, purchase date, current price." Rebane US 6,078,904 col. 13, lines 4-7).

As for claim 4, Rebane US 6,078,904 shows a method of claim 1, wherein the population-comparison statistics are calculated using an equilibrium line structured under the tenets of the CAPM ("The investor generates 607, 609 an optimized allocation

of investment assets for the current short list, including owned securities, of investment assets, using the RDAA module 301 and for the RR/CAPM module 303." Rebane US 6,078,904 col. 13, lines 28-31).

As for claim 5, Rebane US 6,078,904 shows a method of Claim 1, wherein the populations of investments are comprised of asset classes of book-valued secondary-market securities ("It is also possible to handle more complex formulations of the resulting portfolio's p.d.f. via a direct extension of the risk compensated utility mapping of (22) such as may be required for portfolios that include options and/or derivatives. A more conventional case that may occur in practice for risk tolerant investors is when high variance financial instruments are included which yield a portfolio variance containing a significant probability mass below the `total loss amount` or residual net assets or (μ_A-$\Sigma x_{R,I}$)." Rebane US 6,078,904 col. 31, lines 35-45).

As for claim 6, Rebane US 6,078,904 shows a method of Claim 1, wherein the populations of investments are comprised of asset classes of mutual fund securities ("Before concluding this subsection we introduce a further capability of both RR/CAPM and RDAA that applies uniformly to all solution forms. This is the ability of the investor to specify enforced diversification and/or minimums for all elements of the decision vector f such as may be imposed by prudence, corporate policy, or governmental regulations on, say, a mutual funds manager." Rebane US 6,078,904 col. 28, lines 20-27).

As for claim 7, Rebane US 6,078,904 shows a method of Claim 1, wherein the periodic returns are calculated on the basis of quarterly periodic returns ("Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred." Rebane US 6,078,904 col. 12, lines 35-38).

As for claim 8, Rebane US 6,078,904 shows a method of Claim 1, wherein the periodic returns are calculated on the basis of daily periodic returns. ("Prior to any optimization of a portfolio, the investor creates 601 at least one RTF to define his risk preferences using the RTF module 315. Once generated the RTF is stored and accessed as needed by the RDAA and RR/CAPM modules. The investor may review and update his RTF at any time, periodically or when a financially significant event has occurred." Rebane US 6,078,904 col. 12, lines 35-38).

As for claim 9, Rebane US 6,078,904 shows a method of Claim 1, wherein the variance in periodic returns is calculated as its absolute value, known as the standard deviation of periodic returns around their average value ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A.sub.1T

and A.sub.1 no matter what the current risk free return R.sub.RF or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities." Rebane US 6,078,904 col. 27, lines 32-39).

As for claim 10, Rebane US 6,078,904 shows a method of Claim 1, wherein the variance in periodic returns is calculated in terms of its value relative to the pattern and level of the variance in periodic returns for a benchmark measure, otherwise known as beta ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A_{1T} and A_1 no matter what the current risk free return R_{RF} or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities." Rebane US 6,078,904 col. 27, lines 32-39).

As for claim 11, Rebane US 6,078,904 shows a method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as four market-sectors ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A_{1T} and A_1 no matter what the current risk free return R_{RF} or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount A_{1T} to be invested subject to the investor supplied constraint that A_{1T} ε

$[0,_{f1,L1M}A_T]$ where 023 $f_{1,L1M} \leq 1$ is termed the investment fraction of total net assets. Rebane US 6,078,904 col. 27, lines 32-43).

As for claim 12, Rebane US 6,078,904 shows a method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as- five market ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A_{1T} and A_1 no matter what the current risk free return R_{RF} or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount A_{1T} to be invested subject to the investor supplied constraint that A_{1T} ε $[0,_{f1,L1M}A_T]$ where 023 $f_{1,L1M} \leq 1$ is termed the investment fraction of total net assets. Rebane US 6,078,904 col. 27, lines 32-43).

As for claim 13, Rebane US 6,078,904 shows a method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as seven market-sectors ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A_{1T} and A_1 no matter what the current risk free return R_{RF} or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its

direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount A_{1T} to be invested subject to the investor supplied constraint that A_{1T} ε $[0,_{f1,L1M}A_T]$ where 023 $f_{1,L1M}$ ≤1 is termed the investment fraction of total net assets. Rebane US 6,078,904 col. 27, lines 32-43).

As for claim 14, Rebane US 6,078,904 shows a method of Claim 1, wherein the population of periodic returns data comes from an average of a population of investment alternatives combined as ten market-sectors ("The preceding RDAA solutions robustly cull the Nmember `short list` when certain issues provide no benefits of diversification. However so far we have been forced to invest the entire amounts specified by A_{1T} and A_1 no matter what the current risk free return R_{RF} or the historical performance (e.g. reflected by alpha, beta, sigma, covS) of the N securities. Due to its direct approach to maximizing the investor's utility-mapped PP, RDAA may also be configured to select the amount A_{1T} to be invested subject to the investor supplied constraint that A_{1T} ε $[0,_{f1,L1M}A_T]$ where 023 $f_{1,L1M}$ ≤1 is termed the investment fraction of total net assets. Rebane US 6,078,904 col. 27, lines 32-43).

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baker (US 6336103 B1) shows a method and system for correlating an expected asset return of a portfolio to changes in future financial liabilities and also to other financial

indices. Management of asset portfolios often requires precise matching of liability streams, such as is the insurance industry and for pension funds. The method selects the weight percentages of assets by achieving optimum statistical correlation between asset returns and liability returns.

Melnikoff (US 5784696 A) shows a portfolio selector for selecting an investment portfolio from a library of assets based on investment risk and risk-adjusted return. The selector chooses a tentative portfolio from the library and determines a risk-adjusted return for the portfolio. The risk-adjusted return is computed by subtracting the average of multiple segment shortfalls from the average of multiple segment performances, over the same segments, based on analysis of market value data for the assets in the portfolio and for a baseline asset. The asset selection and computation is repeated until the risk-adjusted return of the portfolio satisfies criteria derived from preference data specific to an investor. A data storage medium encoded with instructions for performing the method is also provided.

Jones (US 6021397 A) shows financial advisory system. According to one aspect of the invention, return scenarios for optimized portfolio allocations are simulated interactively to facilitate financial product selection. Return scenarios for each asset class of a plurality of asset classes are generated based upon estimated future scenarios of one or more economic factors. A mapping from each financial product of an available set of financial products onto one or more asset classes of the plurality of asset classes is

created by determining exposures of the available set of financial products to each asset class of the plurality of asset classes. In this way, the expected returns and correlations of a plurality of financial products are generated and used to produce optimized portfolios of financial products. Return scenarios are simulated for one or more portfolios including combinations of financial products from the available set of financial products based upon the mapping.

Ittai (US 2002/0046145 A1) shows a method for analyzing an investment portfolio, comprising the steps of receiving a communication from a user terminal, via a computer network to initiate a session for analyzing an investment portfolio for a user, receiving a description of a financial instrument in the portfolio, and calculating a risk for the financial instrument. Thereafter, the calculated risk is transmitted to the user terminal. A system for analyzing an investment portfolio is also provided.

Xue (2001/0029477 A1) shows a method for mortgage and closed end loan portfolio management in the form of an analytic tool designed to improve analysis of past and future performance of loan portfolios. In accordance with one aspect, the invention aggregates loan units into loan vintages, wherein the loans in each vintage originate within a predetermined time interval of one another. The invention compares different vintages to one another in a manner such that the ages of the loans in the different vintages are comparable to one another. An early warning component of the system predicts delinquency rates expected for a portfolio of loans during a forward-looking

time window. A matrix link component of the invention combines the loan vintage analysis with the early warning component of the invention and predicts the default rate of the loan portfolios at a selected future point in time. The results of the analysis are graphically depicted and/or automatically fedback to provide "yes" or "no" decisions regarding investments in various loan portfolios.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald C. Vizvary whose telephone number is 571-270-3268. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-270-4268.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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